unitech TASHI

A Versatile Multi-Function Terminal

User Manual

400628G Version 1.0

About This Manual

This manual explains how to install, operate and maintain MT380 IP-based Access Control Terminal.

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Regulatory Compliance Statements

FCC Statement

This is a FCC Part 15 Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Canadian Compliance Statement

This Class A Digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte les exigences du Règlement sur le matériel broilleur du Canada.

European Conformity Statement

Declaration of Conformity with Regard to the R&TTE 1999/5/EC and EMC 89/336/ EEC directives.

RoHS Statement

This device conforms to RoHS (Restriction of Hazardous Substances) European Union regulations that set maximum concentration limits on hazardous materials used in electrical and electronic equipment.

Notices

The unit is equipped with a Lithium-Ion battery pack. After extended storage periods, however, the unit may not power-on without external power due to battery discharge. In this case connect the unit to the power cable and recharge the unit for about 12 hours to charge the battery to full capacity.

The battery supplies operational power to the unit for approximately one hours (depending on hardware configuration and with limited backlight use) or provides backup data for three days when there is no external power connected.

Battery Charge Notice

It is important to consider the environmental temperature whenever the Lithium-Ion battery pack is charged. Charging is most efficient at normal room temperature or in a slightly cooler environment. It is essential that batteries are charged within the stated range of 0°C to 50°C. Charging batteries outside of the specified range could damage the batteries and shorten their charging life cycle.

Storage and Safety Notice

Although charged Lithium-Ion batteries may be left unused for several months, their capacity may be depleted due to build up of internal resistance. If this happens they will require recharging prior to use. Lithium-Ion batteries may be stored at temperatures between -20°C to 70°C, however they may be depleted more rapidly at the high end of this range. It is recommended to store batteries within normal room temperature ranges.

Warranty

Under Unitech limited Warranty, the following items are covered:

- MT380 IP-based Access Control Terminal is covered by one-year limited warranty.
- Cables are covered by one-year limited warranty.
- The backup battery is covered by a three-month warranty.

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Chapter 1

Getting Started

Introducing MT380

MT380 is a compact terminal device integrating intercom, security and home automation features, and communicates with central host security and T&A systems through standard Ethernet or WLAN networks. The built-in CMOS digital camera, microphone, and audio speaker provides complete area security with a small footprint.

MT380 features a variety of built-in readers including proximity and finger print identification. Powered by Windows CE.NET 5.0, MT380 package includes programming tools and support software for developing custom security and provides cost-efficient solution for diverse applications.

Features

Powerful system
- Microsoft Windows CE.NET 5.0 operating system
- Intel PXA270 processor with speeds up to 520mHz

System memory
- 128 MB SDRAM
- 64 MB Flash ROM

Display
- 3.5 inch QVGA TFT-LCD touch-sensitive screen
- 240 x 320 resolution

Multimedia
- 2.0 megapixel CMOS camera
- Audio output via 0.8/2-watt speaker
- Built-in microphone

Expansion slot
- SD memory slot

Finger print reader
- Verification time: 0.4 sec per template
- Capacity of fingerprint: up to 100 templates

Reader types
- EM, 125kHz
- HID, 125kHz
- Mifare, 13.56mHz

Wireless connectivity
- Support 802.11b/g Wireless LAN

Communication
- RS232/485
- USB Host
- Relay outputs x 2
- Photo-coupler inputs x 2
- Ethernet
- Power over Ethernet

Battery life
- Normal usage: 1 hours
- Charging time: 12 hours
- Embedded backup battery cell

User interface
- 17 hard keys
- Touch-sensitive screen with stylus

TASHI Middleware
- VoIP
- Video streaming
- Access control and time and attendant management

Software programming tools
- TAS SDK
- C#, VB.NET, C++

Setting up MT380

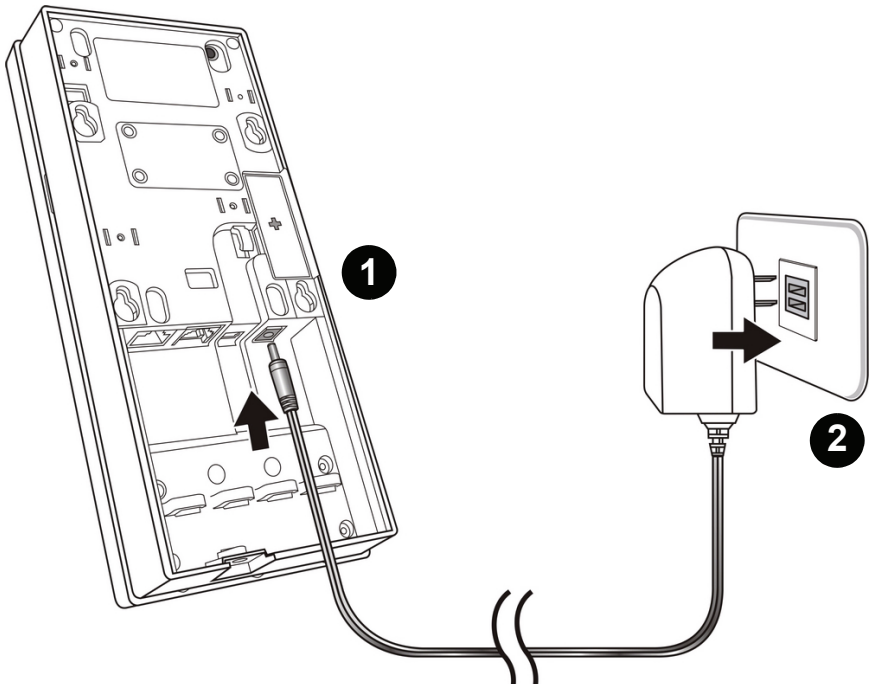
This section explains how to charge the battery and how to turn on MT380 for the first time.

Connecting Power

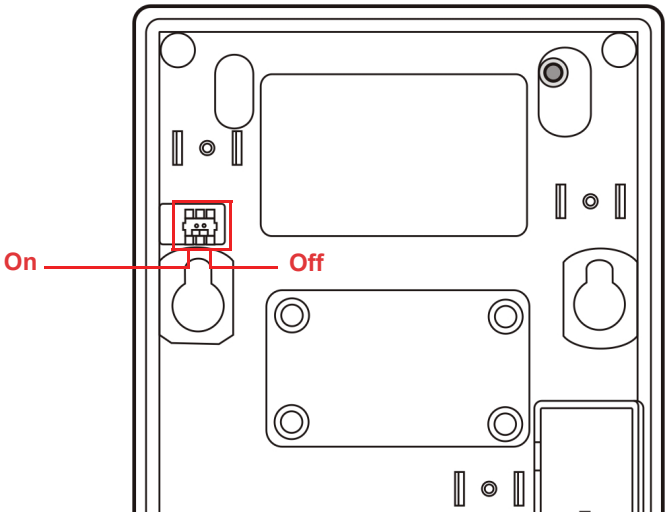
Follow these instructions to connect power to MT380.

NOTE: A UPS battery is used for normal operation when there is no main power. The battery also functions as a data backup battery. Therefore, data you enter may not be properly stored until the built-in backup battery has been adequately recharged.

1. Plug the adapter cable into the DC input jack of the terminal (**1**), then connect the adapter into an electrical outlet (**2**).



2. Turn on the backup battery by switching it left to charge the battery.



Charging the Battery

Before using MT380 for the first time, you need to charge it for about 12 hours. The battery begins charging as soon as you connect the power cable.

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Turning MT380 on for the First Time

After you have initially charged your device for about 12 hours, the device is ready to be used. You can now start up your device where you'll calibrate the display, and set up the system time zone, date and time.

Powering On

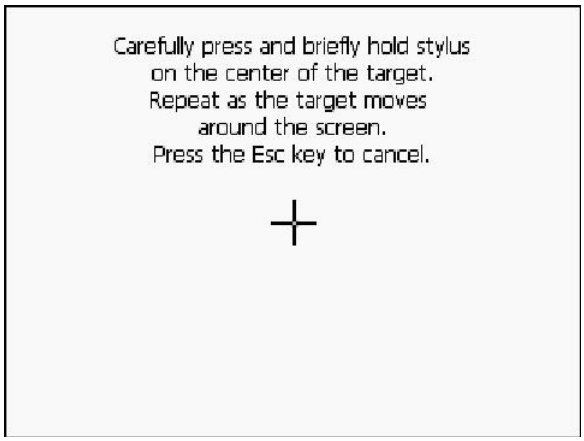
MT380 automatically powers-on when the 12V DC power adapter is plugged-in. MT380 welcome screen appears followed by the Windows CE screen.

Calibrating MT380 Screen

The calibrate screen automatically appears when the unit is powered-on for the first time or after the system is reset.

MT380 prompts you to calibrate the unit by tapping a sequence of screen locations. Tap gently but firmly with the stylus.

When you have completed the series of taps, press the [F5]/[ENTER] key to confirm calibration or press the [F4] /[ESC] key to cancel it.

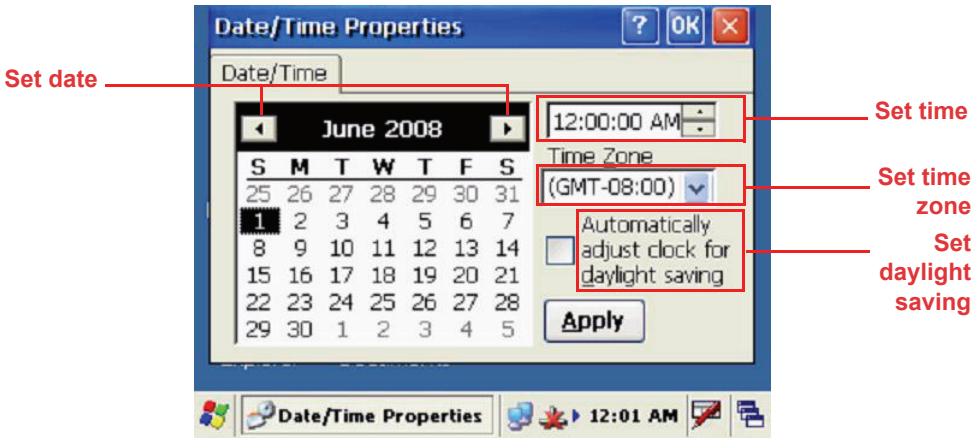

Carefully press and briefly hold stylus
on the center of the target.
Repeat as the target moves
around the screen.
Press the Esc key to cancel.

After confirming calibration, the Date/Time Properties screen appears prompting you to set the date and time.

Setting the Date and Time

In the Date/Time Properties window, use the stylus to select the current date and time, time zone, and daylight saving time option.

- Tap the Left or Right arrows to scroll the year and month you desire or directly tap location of year or month to change the year or month setting.
- Tap on the Hr/Min/Sec AM/PM to input the Hr/Min/Sec to set the time.
- Tap the arrow and set the correct time zone from the drop-down list.
- Check the box to enable Windows to automatically adjust for daylight saving.
- Tap **OK** to save the settings and exit the Date/Time Properties dialog or tap X to exit without saving.



NOTE: To change the time and date at any time tap → **Settings** → **Control Panel** → **Date/Time**.

Using the Hardware

Using the Keypad

MT380 contains five function keys and twelve numeric keys.

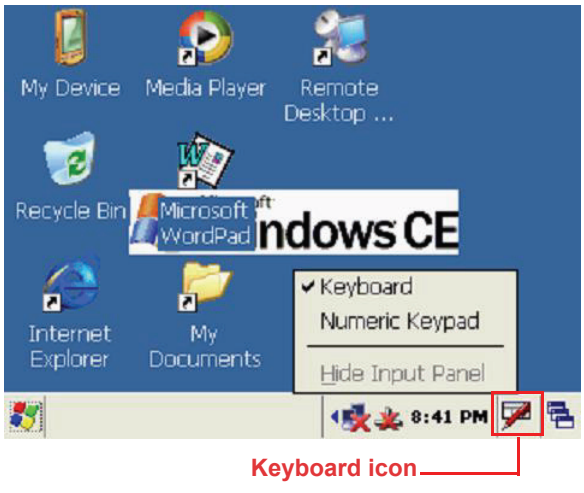
The following table describes the function keys.

Key	Main Function
	Menu [F1]: Function Key
	Clock-in [F2]: Function Key
	Clock-out [F3]: Function Key
	Break-in [F4]: Function Key, or [ESC]: Performs the same function as tapping the button on the touch screen.
	Break-out [F5]: Function Key, or [ENTER]: Enters a carriage return or executes a command.

Using Windows CE Keyboard

The Windows CE Software provides a touch screen keyboard for alphanumeric input. The Windows based keyboard replicates the layout of a standard PC keyboard.

Open the Windows CE keyboard by tapping the “keyboard” icon on the task bar and tapping Keyboard.

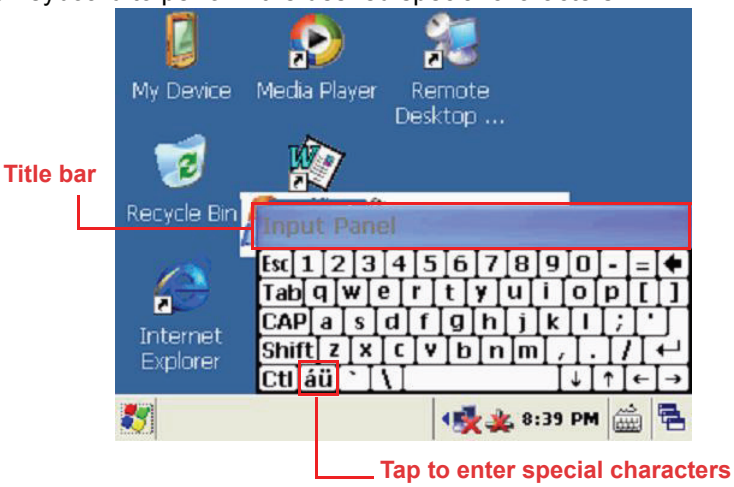


Entering Characters

Character input is the same as on a standard PC keyboard. Tap the on-screen button corresponding to the character you want to input.

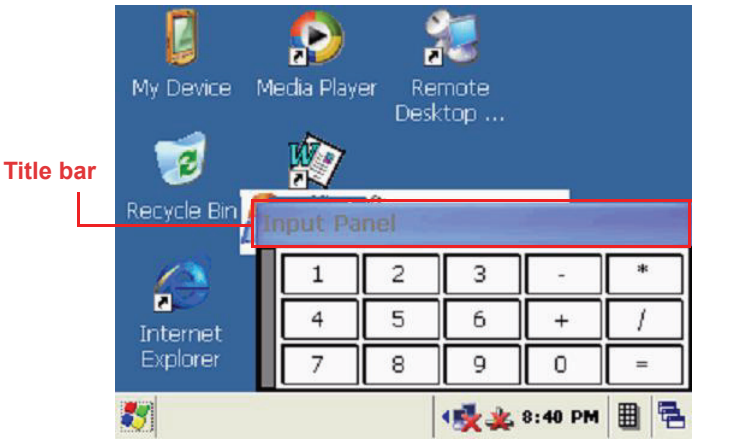
International Character Support:

Tap the [áü] button to switch from the Standard English keyboard to the European keyboard or switch from the standard keyboard to perform the desired special characters.


Title bar
My Device
Media Player
Remote Desktop ...
Recycle Bin
Input Panel
Internet Explorer
Esc 1 2 3 4 5 6 7 8 9 0 - = ←
Tab q w e r t y u i o p [ ]
CAP a s d f g h j k l ; '
Shift z x c v b n m , . / ↵
Ctl áü ` \ ↓ ↑ ← →
8:39 PM
Tap to enter special characters

Entering Numerics

Open the Windows CE numeric keyboard by tapping the “keyboard” icon on the task bar and tapping Numeric Keyboard. Tap the on-screen button corresponding to the numeric you want to input.



Moving the Keyboard

Tap the title bar and drag the keyboard to the desired location.

Closing the Keyboard

Tap the keyboard icon and tap Hide Input Panel to close Windows CE keyboard.

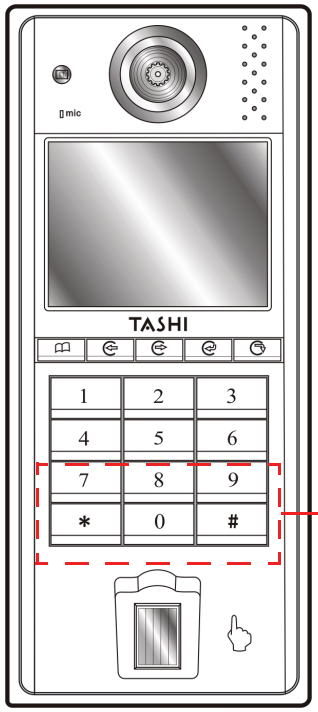
Using the Stylus

CAUTION! Never use anything other than MT380 stylus on the screen. Using an object other than the stylus could cause permanent damage.

1. Hold the stylus as you would hold a pencil.
2. To make a choice from a menu, lightly tap the tip of the stylus on that choice.
3. Double-tap to open programs.
4. To write data into a field on a form, use the stylus to print the letters or numbers.

Using Proximity Reader

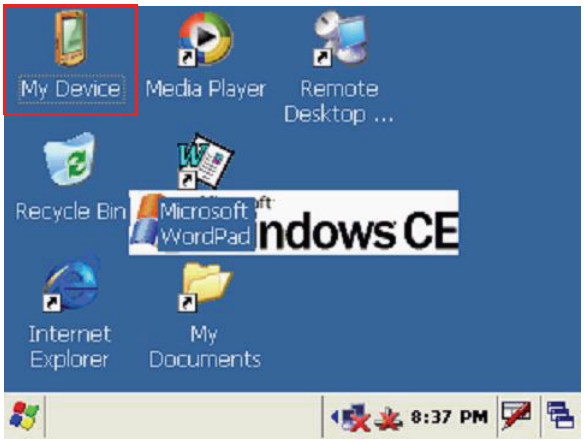
MT380 features a standard proximity reader, which is compatible with all 125kHz EM, 125kHz HID, and 13.56mHz Mifare cards.



Testing Proximity Card Verification

MT380 has a built-in demo programs that enable users to make proximity card verification.

1. Double-tap the **My Device** icon on the Windows CE desktop.



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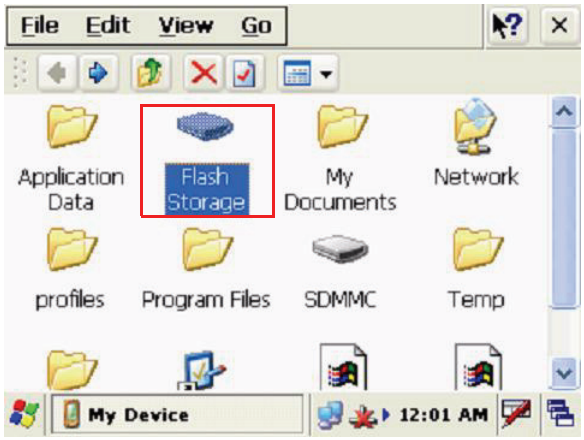
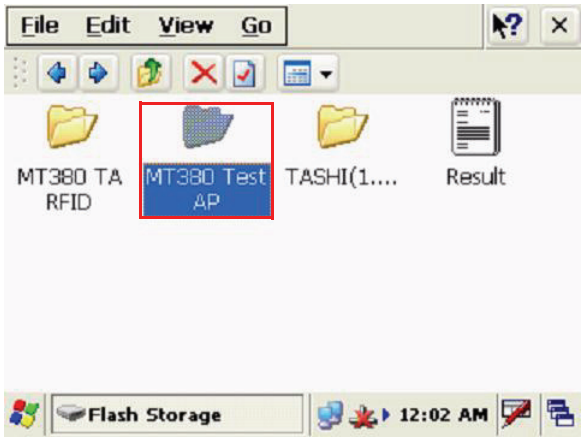
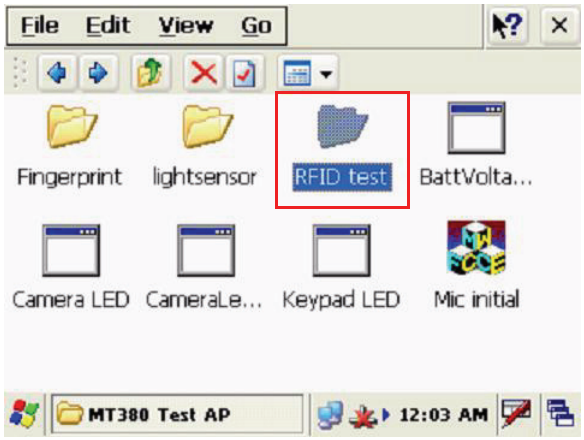
2. Double-tap the Flash Storage.



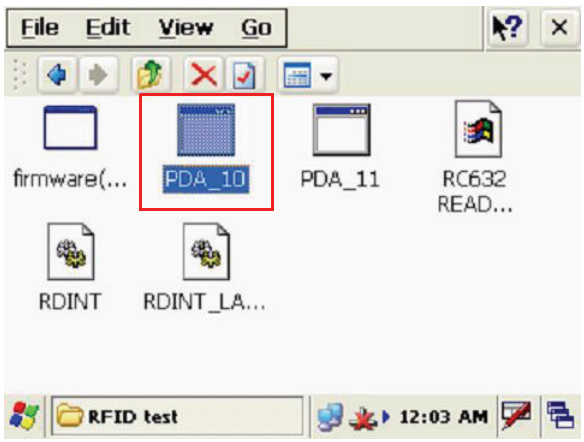
3. Double-tap MT380 Test AP.



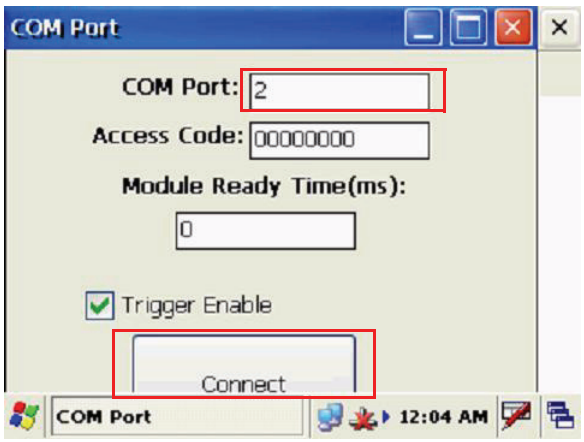
4. Double-tap the RFID test folder.



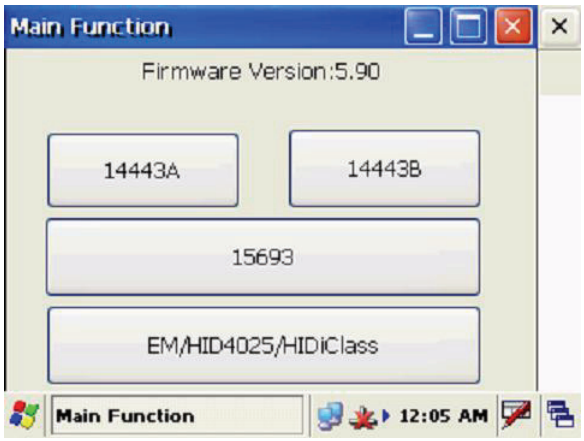
5. Double-tap the PDA_10 to open the demo program.



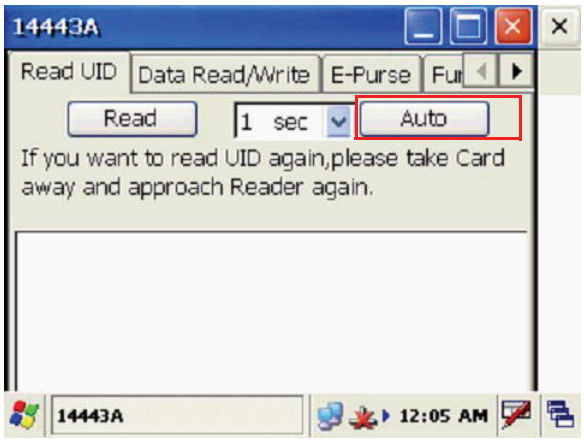
6. Set the COM Port=2. Tap Connect.



7. Tap a card type to activate the demo program you want to test.



8. Tap **Auto** and bring the proximity card close to the sensor.
The code will be read and displayed on the field below.



9. Tap **Stop** to end reading.

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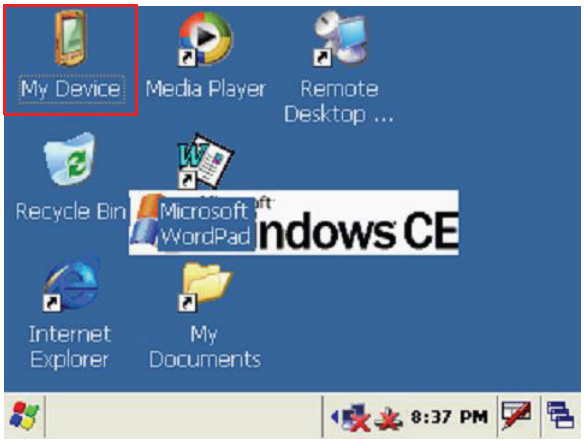
Using the Finger Print Reader

MT380 has an optional integrated Finger Print reader that able to verify fingerprint in 0.4 seconds per template. The Finger Print Reader can store up to 100 templates.

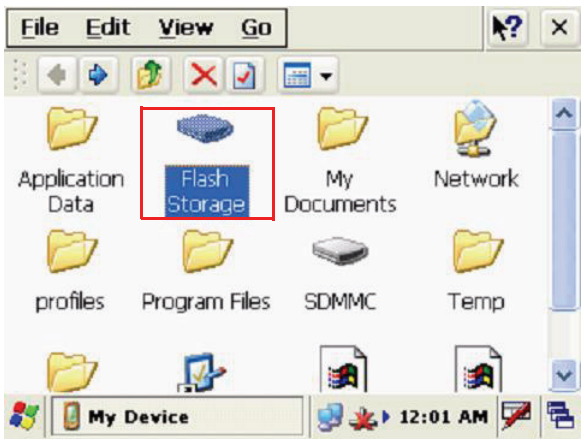
Testing Finger Print Verification

MT380 has a built-in BIO ID Manager programs that enable users to test finger print verification.

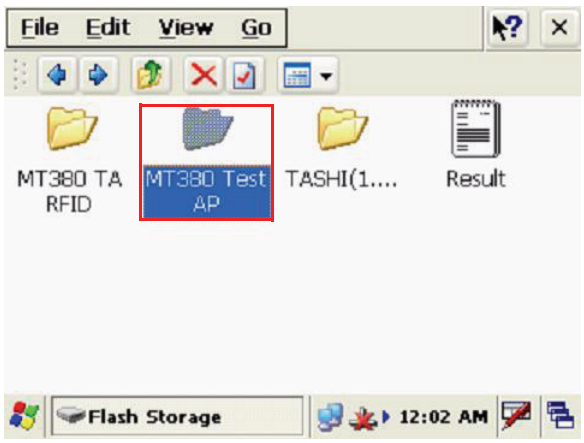
1. Double-tap the **My Device** icon on the Windows CE desktop.



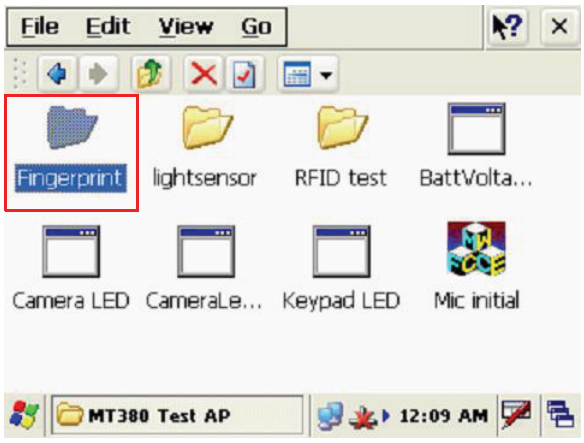
2. Double-tap the Flash Storage.



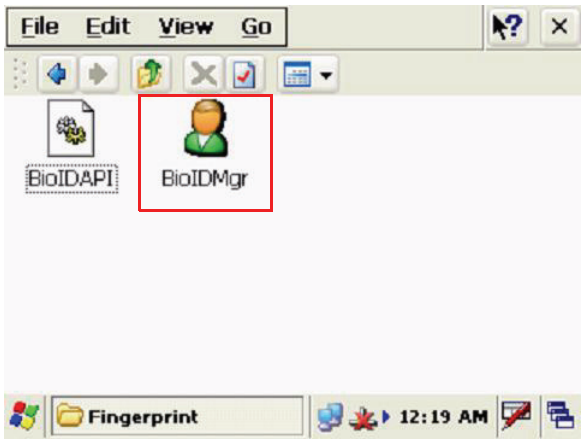
3. Double-tap MT380 Test AP folder.



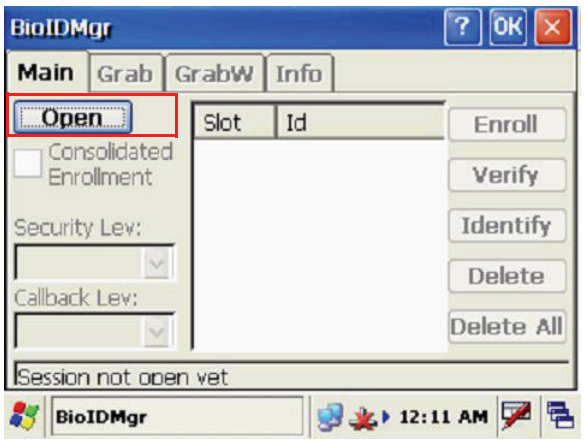
4. Double-tap the Fingerprint folder to open the demo program.



5. Double-tap the **BioIDMgr** to open the demo program.



6. Tap **Open** to activate the program.



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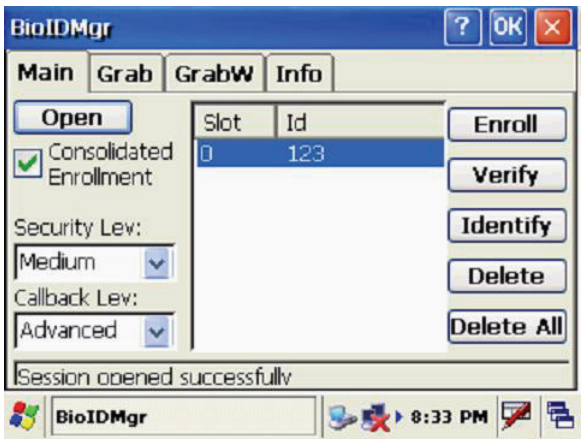
7. Tap **Enroll** to input a new sample id for the fingerprint. For example, 123. Tap **OK**.

8. Put finger on the sensor three times according to the message shown on screen.

9. The finger print is enrolled into the program and displayed in the Slot-Id field.



10. Select a finger print id and tap **Verify** to start verifying the finger print.

    A pop-up window appears “Verify live finger with slot 0 id ’123’?”. Tap **Yes**.

11. Put finger on the sensor according to the message shown on screen.

    A pop-up window appears with verification results: “Match” or “No match”. Tap **OK**.

12. Tap **Identify** to find finger print id info.

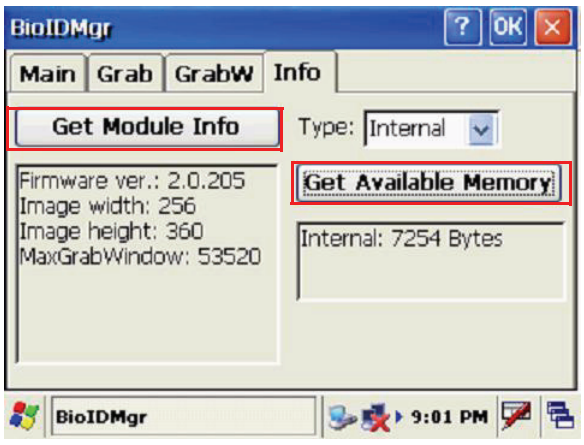
    Put finger on the sensor according to the message shown on screen.

    A pop-up window appears with verification results: “Match found: slot 0 id ‘123’” or “No match”. Tap **OK**.

13. Under the **Grab/GrabW** tab, tap **Grab/ GrabWindow** to collect a finger print image.

14. Under the **Info** tab, tap **Get Module Info** to display the Finger Print module info.

    Under the **Type** drop-down menu, select all, internal, or external, then tap **Get Available Memory** to display the Finger Print Reader’s memory.



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Using the Camera

MT380 has a built-in 2.0 megapixel camera which provides the following extra functionality:

- Enable users to capture still image when a card is being read
- Verify attendant time with a photo image
- Serve as video recorder
- Function as an audio/video intercom

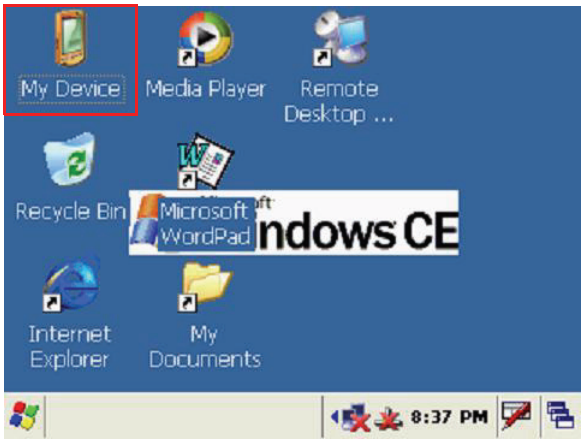
Additionally, facial recognition can be incorporated using third party software.

MT380 has a demo program that enables users to capture a still picture with a card number and time stamp when a proximity card is read.

Testing Imager

MT380 has a built-in CameraDemo program that enable users to test the camera efficiency.

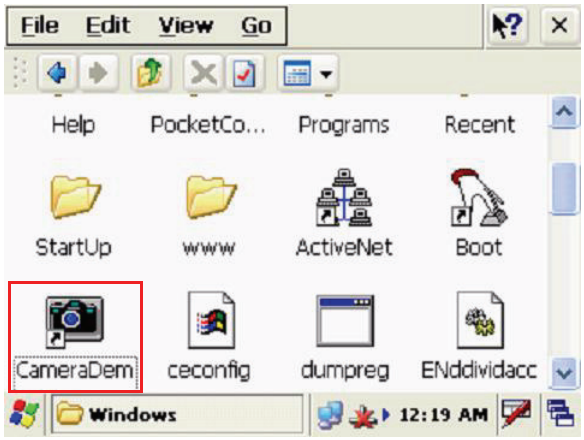
1. Double-tap the **My Device** icon on the Windows CE desktop.



2. Double-tap the Windows folder.

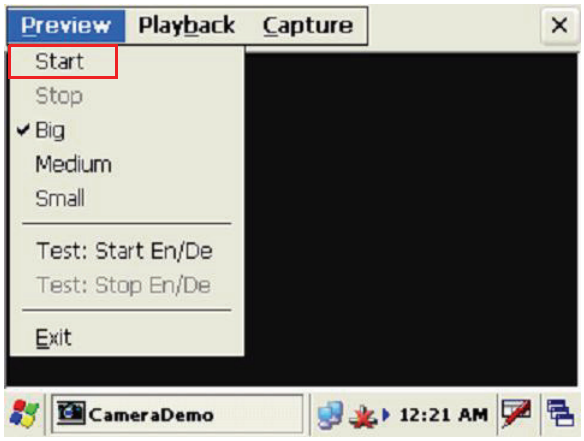
3. Double-tap the Windows folder.

4. Double-tap **CameraDemo** to open the demo program.



5. Tap **Preview** → **Start**.

   A continuous image is displayed enabling users to capture image/audio/vedio.

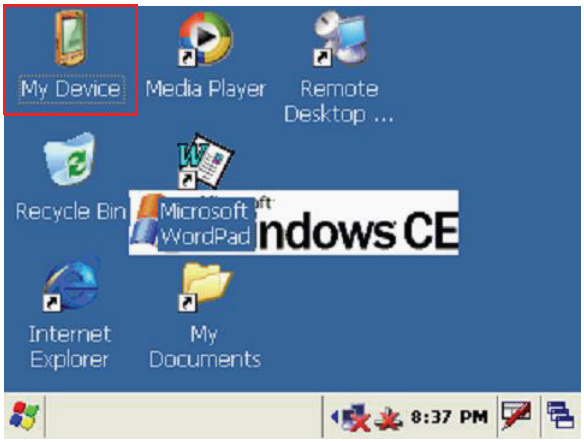


6. Tap **Capture**.

Audio Demo Program

The audio demo program enables you to test audio input (recording) and output (playback).

1. Double-tap the **My Device** icon on the Windows CE desktop.



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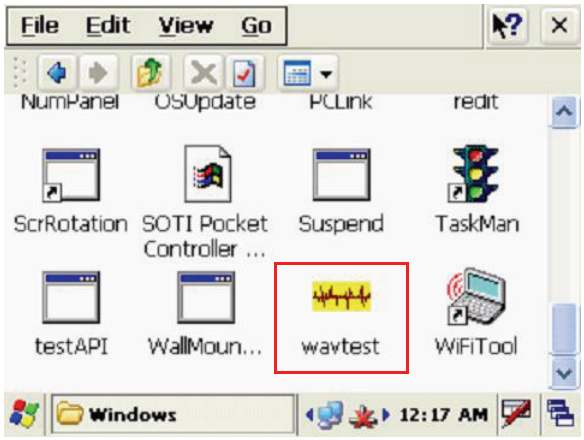
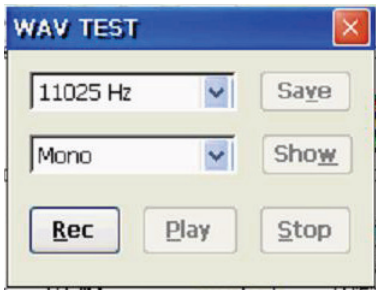
2. Double-tap the Windows folder.

3. Double-tap **wavtest** to open the demo program.

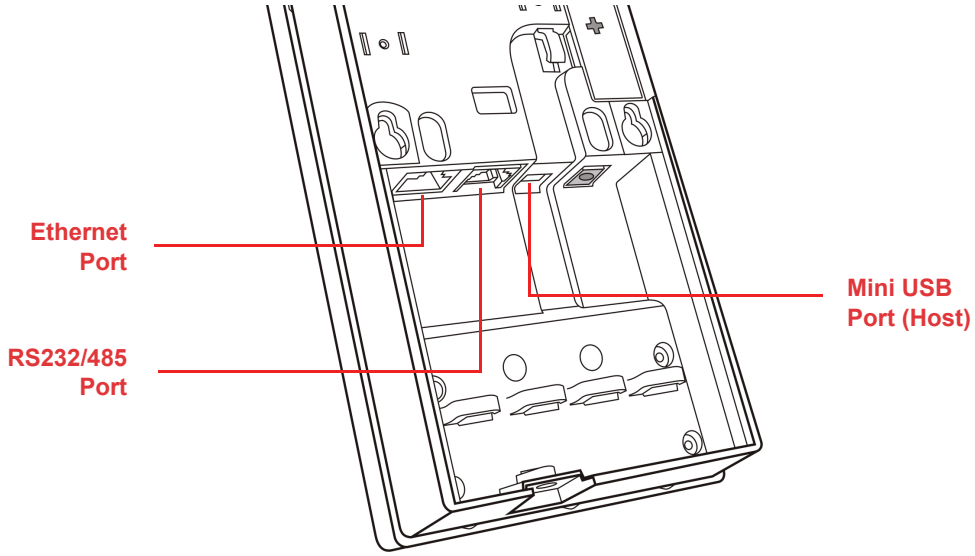


4. Do one of the following:
   - Tap **Rec** to record the voice
   - Tap **Stop** to finish recording
   - Tap **Play** to listen to the recording



Data Communication

MT380 enables users to link to a host computer via RS232/485 cable or Ethernet cable for data communication.



Establishing USB Connection

Connect the provided mini USB cable to the terminal's USB host port, and connect the other end to a USB peripheral, such as keyboard, mouse, memory card, and HID compliant device.

Establishing Device-PC Connection

The following connection methods are provided.

Serial Cable

1. Plug the provided RS232 communication cable into the PC's 9-pin COM port.
2. Connect the other end to MT380 RS232 interface Port.

Ethernet Cable

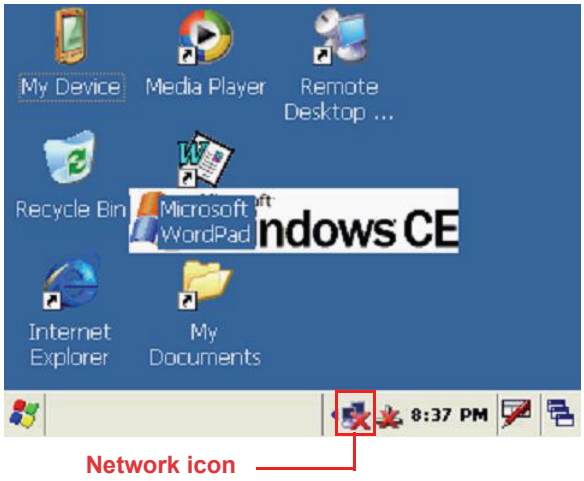
1. Plug an Ethernet cable into the PC's RJ-45 Ethernet Port.
2. Connect the other end of the cable to MT380 Ethernet Port.

NOTE: In order for the optional power over Ethernet module to support power over the RJ-45 Ethernet cable, the client side must have a POE Hub.

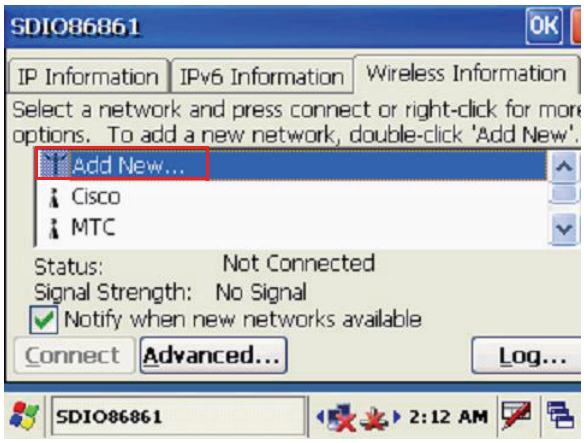
Establishing WiFi Connection

MT380 supports wireless communication with a built-in WiFi card for 802.11b/g wireless LAN.

Everytime when you power on the device, the pop-on window with wireless information will appear. If not, tap the network icon on the task bar.



1. Under the Wireless Information tab, double-tap **Add New...** to add a new network.

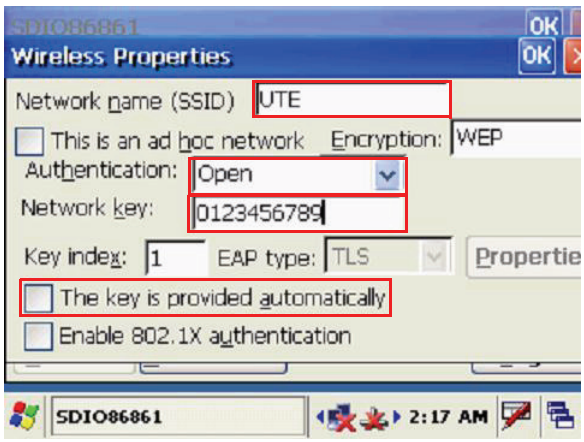


2. Enter the **SSID** (UTE for example).

   Select **Open** from the **Authentication** drop-down menu.

   Uncheck **The key is provided automatically**, and input the 10-digit **Network key**.

   Tap **OK**.



3. The new network is automatically connected.

   If not, tap **Connect** to connect the new network (UTE for example).

Using ActiveSync

Using Microsoft ActiveSync, you can synchronize and transfer information between your desktop computer and terminal.

Additional Capabilities

With ActiveSync, you can also:

- Back up and restore your device data.
- Copy (rather than synchronize) files between your device and desktop computer.
- Control when synchronization occurs by selecting a synchronization mode. For example, you can synchronize continually while connected to your desktop computer or only when you choose the synchronize command.
- Select which information types are synchronized and control how much data is synchronized. For example, you can choose how many weeks of past appointments you want to synchronize.

Requirements

To synchronize, ActiveSync program must be installed on both your desktop computer and the terminal. MT380 terminal ships with ActiveSync already installed. You can download and install the most current version of ActiveSync from **www.microsoft.com**.

Installing Microsoft ActiveSync

In order to exchange data between your computer and MT380, Microsoft ActiveSync must be installed on your computer.

NOTE: If you have a previous version of the Microsoft ActiveSync installed in your computer, uninstall it first before installing the latest version of Microsoft ActiveSync. MT380 IP-based Access Control Terminal requires ActiveSync version 4.5 or higher.

To install Microsoft ActiveSync on your computer:

1. Close any open programs, including those that run at startup, and disable any virus-scanning software.
2. Download the ActiveSync software from the Microsoft ActiveSync Download page at http://www.microsoft.com/windowsmobile/activesync/activesync45.mspx.
3. Browse to the location of the downloaded file, and double-click it.
   The installation wizard begins.
4. Follow the instructions on the screen to install Microsoft ActiveSync.

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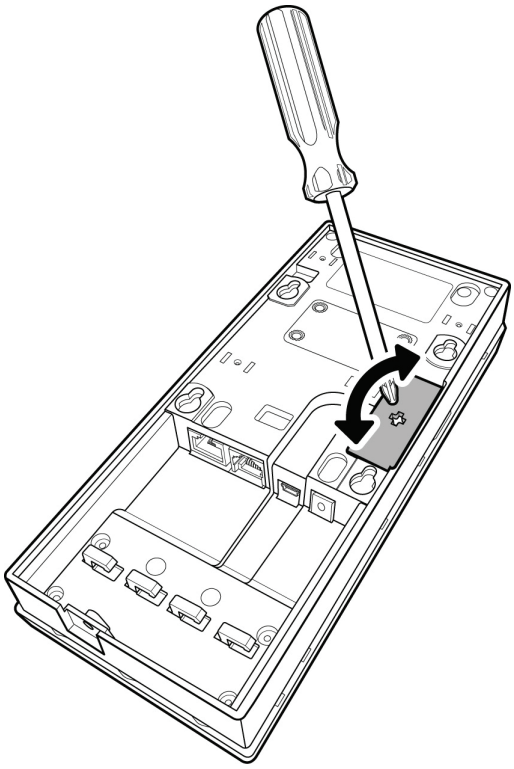
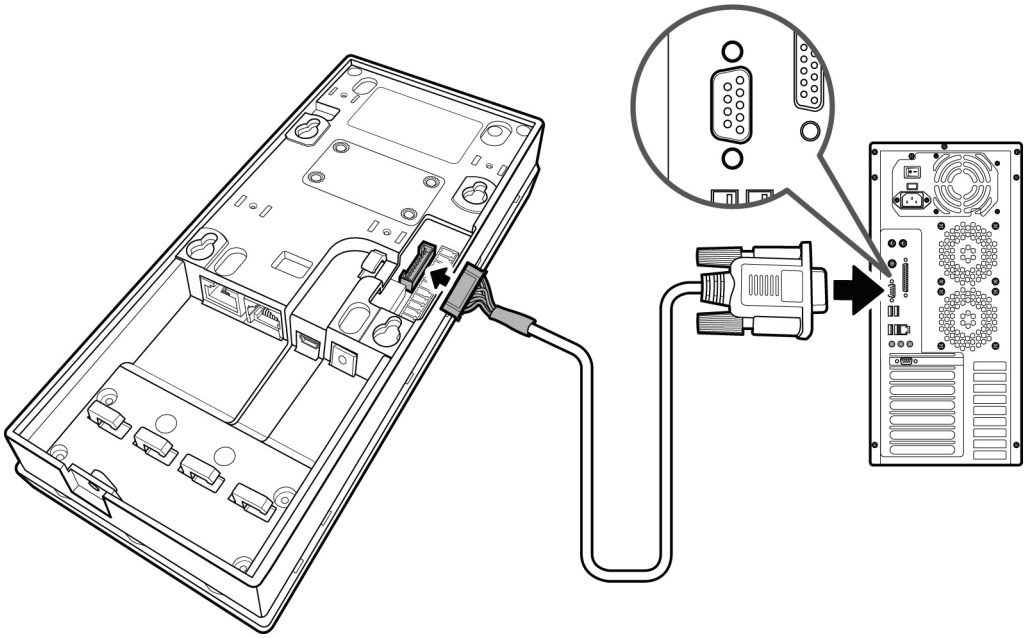
Connecting the Device to Your Computer

1. Locate the I/O panel on MT380's rear cover, and remove the I/O panel by twisting a Philips screwdriver on the cross mark shown as the illustration.



2. Connect the provided full RS232 converter cable to the terminal's full-duplex RS232 port, and then connect the other end to PC.



3. Power on MT380.

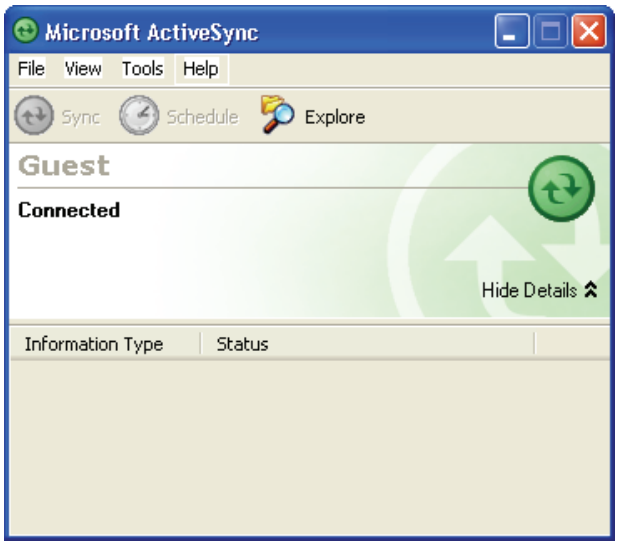
4. ActiveSync starts automatically and configure the communication port to work with MT380. The New Partnership setup wizard automatically starts.

New Partnership
Set Up a Partnership
Before you can synchronize information between your mobile device and this computer, you must set up a partnership between them.
Would you like to set up a partnership?
Yes
Set up a partnership so that I can synchronize information between my device and this computer.
No
I don't want to synchronize information. Set up my device as a guest so that I can copy or move information between my device and this computer.
< Back
Next >
Cancel
Help

NOTE: If ActiveSync doesn't start automatically, click → **Programs** → **Microsoft ActiveSync**.

If a message appears indicating that it is unable to detect a connection, click the **Cancel** button and manually configure the communication settings.

5. Follow the onscreen instructions.
6. When the configuration process is complete, the ActiveSync window appears.



7. Synchronization will be initialized and will take place if you've chosen to synchronize periodically or upon connection.

NOTE: Your computer can create a partnership with multiple MT380s. Also, a MT380 can create a partnership with up to two computers.

8. On MT380, tap → **Settings** → **Control Panel** → **PC Connection**.

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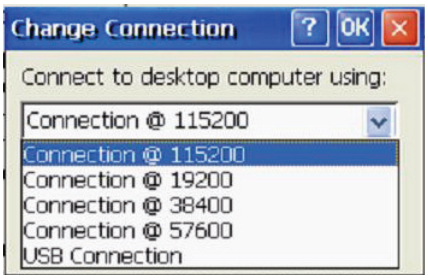
9. Check **Enable direct connections to the desktop computer**.

   Tap **Change Connection**.

PC Connection Properties
OK
PC Connection
Enable direct connections to the desktop computer
When enabled, connect to the desktop computer using:
'Connection @ 115200'
Change Connection...
Warning: Changing the connection may disable communications with your desktop computer.
PC Connection Prop...
3:04 AM

10. Select the type of connection you want to use.



Setting up the Wireless Local Area Network Card

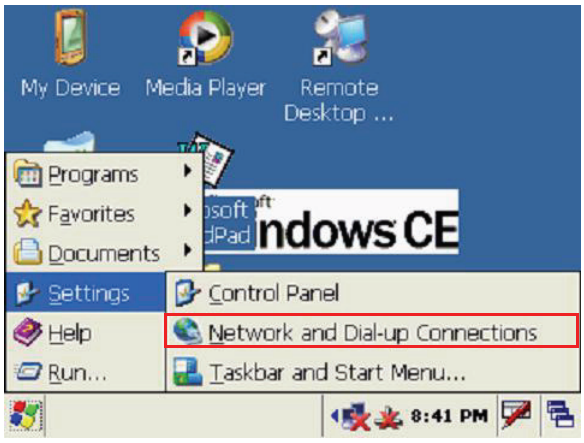
MT380 automatically detects RF cards during the first-time installation. Note that you can use one of the following two ways to set the IP address:

- Obtaining an IP Address via DHCP Server
- Specifying an IP Address

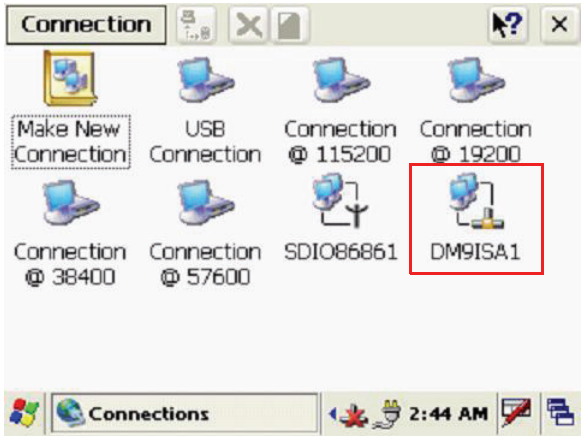
Obtaining an IP Address via DHCP Server

To obtain the IP address via DHCP server, make sure a DHCP server is available in your LAN environment.

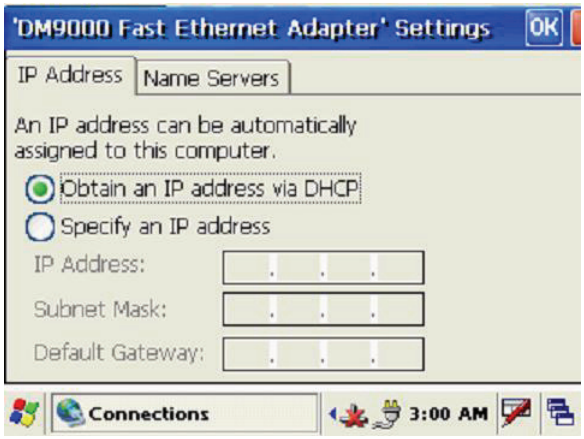
1. Tap → **Settings** → **Control Panel** → **Network and Dial-up Connections**.



2. Tap **DM9ISA1**.



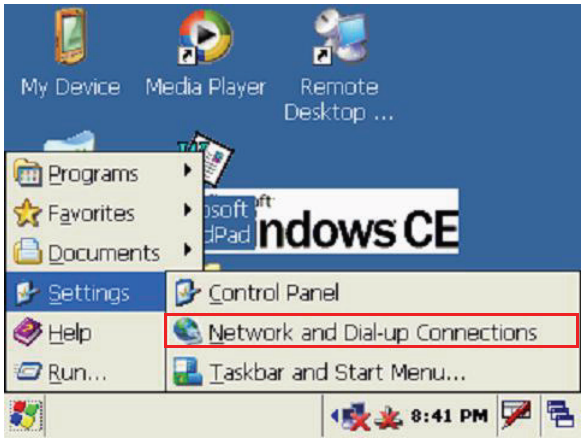
3. Tap the radio button next to **Obtain an IP address via DHCP** and then tap the **OK**.



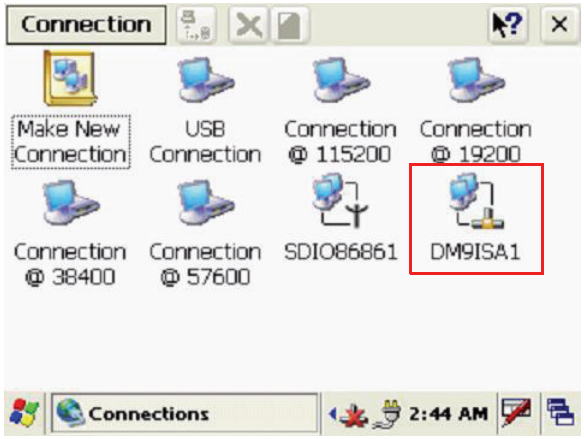
Specifying an IP Address

If there is no DHCP server available/if you want to specify an IP address, assign IP address to each MT380 as follows:

1. Tap → **Settings** → **Control Panel** and then double-tap **Network and Dial-up Connections**.



2. Tap **DM9ISA1**.



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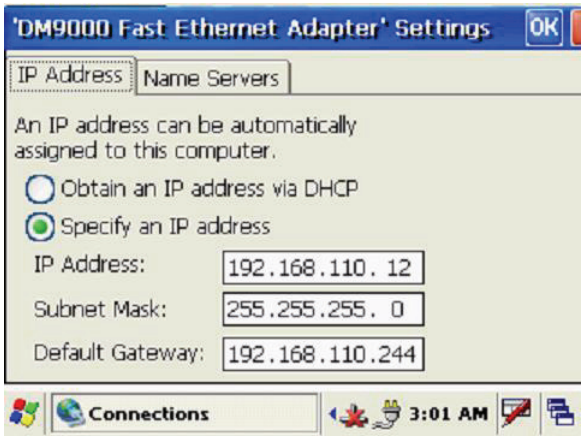
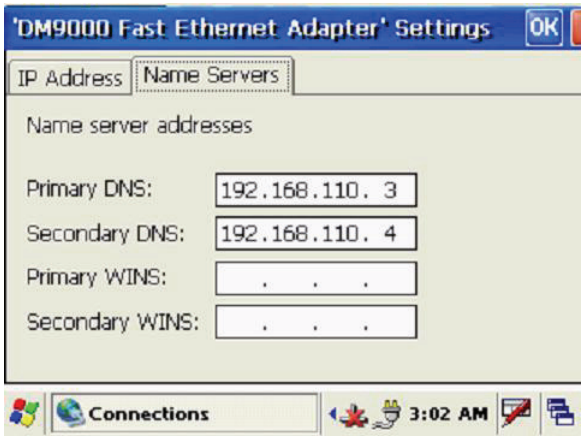
3. Tap the radio button next to **Specify IP Address**.

   Input the proper IP address, Subnet Mask, and Default Gateway.



4. Tap the **Name Servers** tab, and then input the proper Primary DNS, Secondary DNS, Primary WINS, and Secondary WINS.

   To avoid conflict with your LAN environment, consult with your MIS department for the correct TCP/IP setting.



Power System

Charging the Backup Battery for the First Time

MT380 is equipped with a Lithium-Ion battery pack. After long storage periods, the unit may not power-on without an external power adapter due to battery discharge. In this case, connect MT380 to the power adapter and recharge the unit for about 12 hours to fully charge the battery.

NOTE: MT380 can operate for approximately two hours (depending on the hardware configuration and backlight usage) or can store data for three days when there is no external power. Operating with the backlight at 100% brightness and using the finger print utility consumes more power. Therefore, when MT380 is disconnected from external power, the unit will enter sleep mode and turn off the backlight. When you tap the touch panel, the backlight is set to minimum brightness to saving battery power.

Checking the Battery Status

If the main battery level becomes low in the course of normal use, a status icon appears on the device taskbar indicating low or very low battery status. If the battery level reaches low status, the device will enter suspend mode; if the battery level reaches very low status, the device will enter deep sleep mode. In this case, you have about 12 hours to recharge your device after which you risk losing all data on your device's internal memory.

When the backup battery is low, an icon appears in the Taskbar indicating that you should recharge the backup battery as soon as possible.

Check the Power Properties by tapping → **Settings** → **Control Panel** → **Power**.

CAUTION! When there is no external power and the backup battery icon appears in the system tray, you should backup the data from MT380 immediately.

Extending Battery Life

You can extend MT380 battery life by doing either of the following:

- Changing the automatic power settings
- Reducing CPU speed
- Minimizing the use of backlight

Changing the Automatic Power Settings

MT380 enters idle mode when there is no task, or all tasks are waiting for input. In the default setting, MT380 enters User Idle mode when there is no user input after one minute. The remains idle for 3 minutes and when there is no external charging power connected. Pressing the power button returns MT380 to the previous screen at the time of automatic shutdown.

To change the automatic power settings:

1. Open the Power Properties by tapping → **Settings** → **Control Panel** → **Power**.
2. Tap the **Schemes** tab.
3. Tap the automatic shut off time arrow to select from a list of time periods for the following modes:
   - **User Idle:** MT380 switches to User Idle mode when there is no user input after the selected time.
   - **Switch state to System Idle:** MT380 switches to from User Idle mode to System Idle mode when the system is inactive after the selected time.
   - **Switch state to Suspend:** MT380 switches from System Idle mode to Suspend mode when the system is inactive after the selected time.

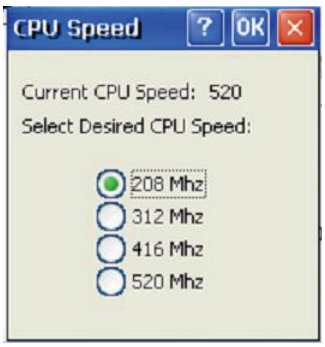
   The available time periods are 1, 2, 3, 4, 5, 10, 30 minutes and Never.

Reducing CPU Speed

Follow these instructions to reduce the CPU speed.

1. Tap → **Settings** → **Control Panel** → **CPU Speed**.

2. Select a lower CPU speed to conserve battery power.



Adjusting the Backlight

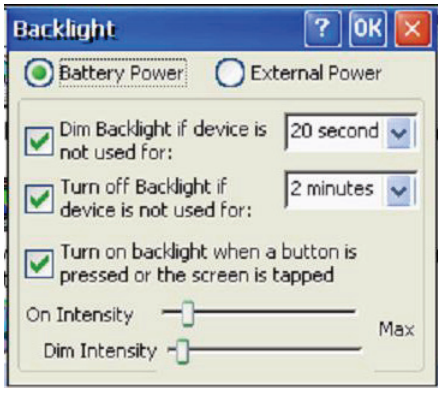
This section describes screen settings and how to conserve battery power by adjusting the backlight.

NOTE: MT380 screen contrast has been preset at the factory for optimum performance.

The backlight for the color display is user-defined. There are two tabs – one for Battery Power and the other for External Power.

1. Tap → **Settings** → **Control Panel** → **Backlight** to adjust the screen brightness.

2. Set the backlight behavior and drag the **On Intensity** and **Dim Intensity** sliders to the desired levels.



Field	Description
Dim Backlight if	Select how many minutes you want to elapse before the backlight dims.
Turn Off Backlight if	Select how many minutes you want to elapse before the backlight automatically turns off.
Turn on Backlight	Select this option if you want the backlight to turn on when a button is pressed or the touch screen is tapped.

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Performing a Hardware Reset

You may have to perform a reset if the device freezes (i.e., device no longer responds to the buttons on the screen).

Performing a Warm Start

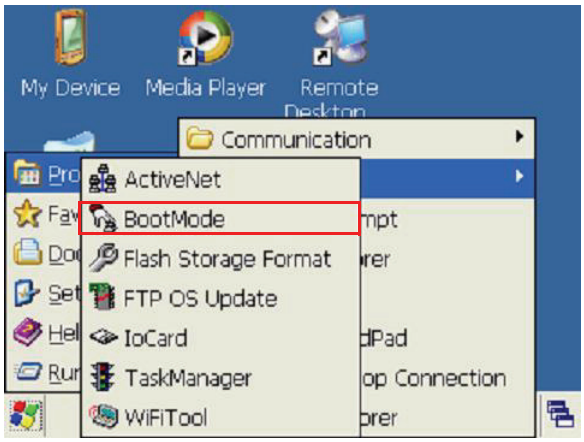
A Warm Start is used to reset or re-boot the device without losing data stored in RAM. You would perform a warm start in any of the following situations:

- The terminal fails to respond
- After installing some software applications
- After making changes to certain system settings, such as SD card

CAUTION! A Warm Start will cause unsaved data to be lost.

Method 1: From WinCE

1. Tap → **Programs** → **Utilities** → **Boot-Mode**.



2. Tap **Warm Boot**.

Method 2: From Hardware

1. Locate the function keys on MT380.
2. Press F2 and F4 simultaneously.

Performing a Cold Start

A cold start will erase all data and all programs you have added and will restore the device to the default factory settings. However, data and application programs stored in the Flash Storage will not be deleted.

Never perform a cold start unless a warm start does not correct your problem. When you perform your next ActiveSync operation, you can restore any data that you previously synchronized to your computer or you can restore data that you backed up to a storage card.

You can perform a cold start using the BootMode utility in the operating system, or by pressing the Cold Boot hardware reset button in the unit.

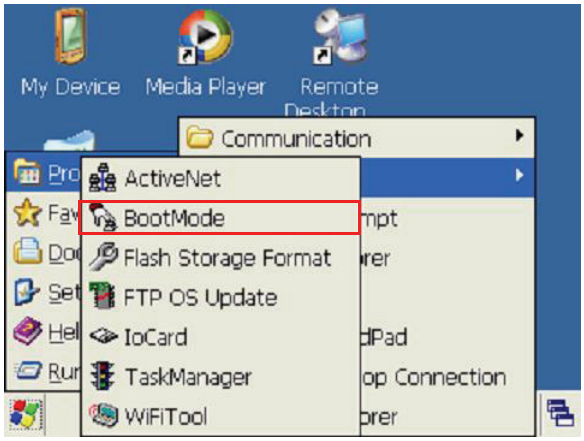
You would perform a cold start in any of the following situations.

- Reset the operating system
- Restore the terminal back to factory defaults
- Reset the terminal after a boot loader, keyboard and kernel upgrade.

CAUTION! A cold start erases all data and installed applications in RAM memory.

Method 1: From WinCE

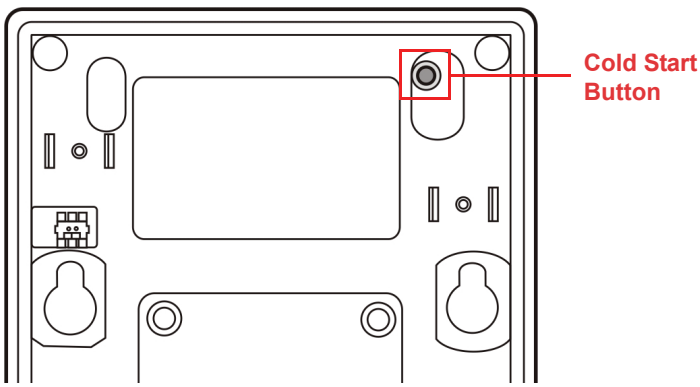
1. Tap → **Programs** → **Utilities** → **Boot-Mode**.



2. Tap **Cold Boot**.

Method 2: From Hardware

1. Locate the cold start button on rear MT380.
2. Lightly press the tip of stylus to the cold start button.



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Appendix A

System Specification

Processing/Memory	CPU	Intel Bulverde PXA270 520mHz
	Memory	SDRAM: 64MB/128 MB Flash ROM: 64 MB
OS	Microsoft Windows CE.NET 5.0	
Keypad	17-key, including numeric key and function key	
Display	3.5-inch 240x320 QVGA, TFT-LCD with Touch Screen & backlight	
Communication	RS232/485 USB Host Relay outputs x 2 Photo-coupler inputs x 2	802.11b/g wireless communications Ethernet Power over Ethernet
Multimedia	Camera: 2.0 megapixel CMOS camera Audio output: 0.8/2-Watt speaker Microphone input	
Expansion Slot	SD slot for memory expansion	
Power Source	Main	External power
	Backup	Lithium-Ion @ 3.7V 1200mAh
Enclosure	Weight	515g
	Dimension	L228 X H35 X W100mm Max.
Environmental	Operating temperature	0ºC~ 50ºC (-32ºF~ 122ºF)
	Storage temperature	-20ºC~ 70ºC (-4ºF~ 158ºF)
	Relative Humidity	10% ~ 90% RH non-condensing
Certification	CE, FCC, BSMI, CCC, RoHS compliant	
Software	Embedded Visual Basic terminal program for T&A C#, VB.NET, C++	
Proximity Reader	EM, 125kHz HID, 125kHz Mifare, 13.56mHz (ISO14443A/B, 15693)	

Appendix B

Worldwide Support

At Unitech, we have a professional support team to answer your questions or any related technical issues. If the equipment problem occurs, you may contact our regional services representatives to get the quick response. We have six regional services center. Choose your region to get our quick support and their contact information can be found in our websites provided as below.

Region	Website
Global Operation Center	www.unitech-adc.com
Unitech Asia Pacific & Middle	www.unitech-utp.com.tw
Greater China Division	www.unitech-sbd.com
Unitech Japan	www.unitech-japan.co.jp
Unitech America	www.ute.com
Unitech Latin America	www.latin.ute.com
Unitech Europe	www.unitech-europe.nl